

varipump

INSTRUCTION MANUAL



PLEASE READ ALL OF THE INSTRUCTION MANUAL BEFORE ATTEMPTING TO INSTALL OR OPERATE THE VARIPUMP.

In the unlikely event the pump is supplied with a plug, this can be cut off and removed in the UK, as the mains supply cable should be wired into a safe, compliant, outdoor electrical system, with an RCD cut-off.

Cutting the plug off will not invalidate the warranty.

WARNING: PLEASE READ THE FOLLOWING SAFETY INFORMATION FIRST.

IMPORTANT SAFETY INFORMATION

- Please read the instruction manual carefully.
- The electrical installation is to be done by a qualified electrician, in accordance with applicable electrical codes.
- **WARNING:** Always shut off electrical power before installation and / or servicing this pump.
- A residual current device (RCD), also known as the residual current circuit breaker (RCCB), with a tripping current not exceeding 30mA must be installed in the supply circuit.
- A means of disconnection from the supply having a contact separation of at least 3mm in all poles must be incorporated in the wiring.
- Check the pumps name plate for the following:
Voltage, Amp draw and Cycle.
- Do not use this power cord if there is any visible damage.
- Do not use this power cord in water or if the motor or electrical receptacle is in contact with any standing water.
- This power cord should only be plugged into a properly installed RCD.
- Always test cycle a RCD to determine its condition before use.
- Improper installation can create electrical hazards which could result in property damage, serious injury or death. Improper installation will void the warranty.
- Do not submerge the controller in water.
- The pump should be operated when permissible temperature is **between 0°C and 35°C**. The pump should never be operated outside of these temperatures or damage may occur.
- Do not operate the pump without water.
- Young children must always be supervised near ponds.



Disposal Of Your Old Product

Your product is designed and manufactured with high quality material and components, which can be recycled and reused. When this crossed-out wheeled bin symbol is attached to a product, it means the product is covered by the European Directive 2002/96/EC. Please contact your local authority about correct disposal for electrical and electronic equipment. Our WEEE Registration Number is WEE/FE1471RR.

Please act according to your local rules and do not dispose of your old products with your normal household waste. The correct disposal of your old product will help prevent potential negative consequences for the environment and human health.



INTRODUCING THE EVOLUTION AQUA VARIPUMP

Congratulations on purchasing an Evolution Aqua **Varipump**.

Varipump by Evolution Aqua is a fully controllable pond pump, suitable for large ponds. Output and energy consumption can be controlled at the push of a button allowing you to set the flow rate to your needs whilst monitoring the operating wattage. The motor is quiet and reliable, delivering consistent performance, while being very economical to run.

Available in three sizes, 10,000lph, 20,000lph and 30,000lph, Varipump is powerful enough to run the largest of ponds and filters, and in the most demanding of situations. It can be used as a submersible pond pump or it can be installed out of the pond, drawing water from the pond and through your filtration system.



WHAT'S IN THE BOX?

Varipump 10,000



INSTALLATION ADVICE: Instead of using the fittings supplied we recommend purchasing two 1½" **Single Unions (Threaded Female To Plain Female)**, (EA Code: K82-76-55), to connect the inlet and outlet of the Varipump 10,000 to 1½" **Pressure Pipe**. Fittings and pressure pipe are available from Evolution Aqua stockists.

WHAT'S IN THE BOX?

Varipump 20,000 / 30,000

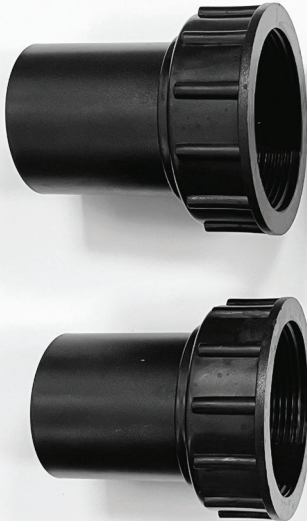
Varipump 20,000 / 30,000
(Strainer Basket & Base Plate)



Control
Box



Varipump 20,000 / 30,000 Connectors & Washers



Inlet & Outlet Connectors
To 50mm Pipe



Hosetail For
Inlet / Outlet



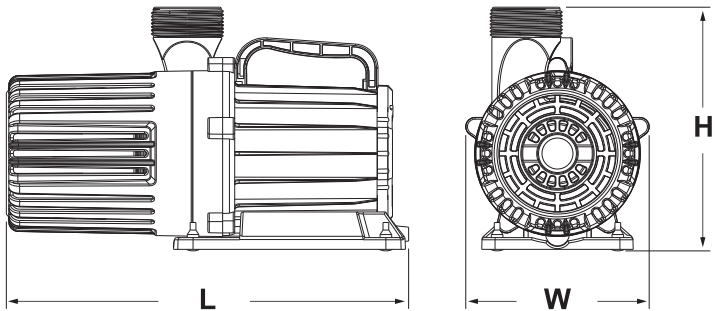
56mm OD
45mm ID
x 3mm

3 x Washers For
Hosetail And Connectors

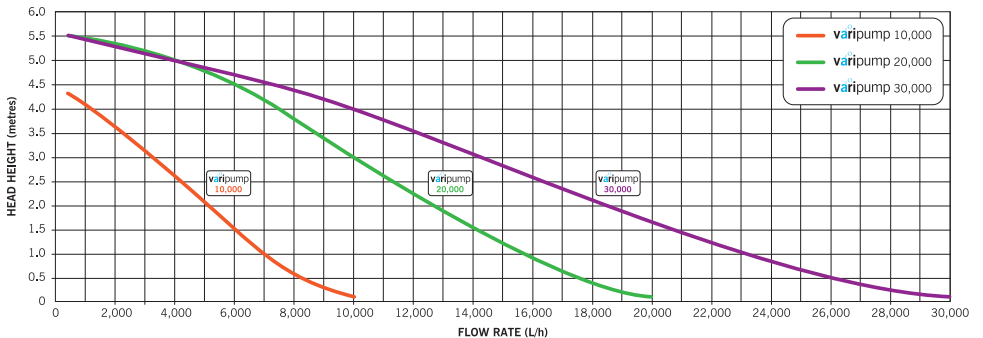
INSTALLATION ADVICE: Instead of using the fittings supplied we recommend purchasing two **2" Single Unions (Threaded Female To Plain Female)**, (EA Code: **K82-76-66**), to connect the inlet and outlet of the Varipump 20,000 / 30,000 to **2" Pressure Pipe**. Fittings and pressure pipe are available from Evolution Aqua stockists.

SPECIFICATIONS

	INLET	OUTLET	MAX. FLOW (LITRES PER HOUR)	MAX. FLOW (GALLONS PER HOUR)	MAX. FLOW (US GALLONS PER HOUR)	MAX. HEAD	DIMENSIONS
Varipump 10000	1½"	1½"	10,000	2,200	2,642	3.1m	267mm (L) 122mm (W) 162mm (H)
Varipump 20000	2"	2"	20,000	4,400	5,283	5.5m	319mm (L) 142mm (W) 181mm (H)
Varipump 30000	2"	2"	30,000	6,600	7,925	5.5m	370mm (L) 155mm (W) 205mm (H)



PUMP CURVES



Pump curves applicable for each pump when running at 100% power

CONNECTION TO THE ELECTRICITY SUPPLY

Electrical installations must be done by a qualified electrician.

In the unlikely event the pump is supplied with a plug, this can be cut off and removed, as it should be wired into a safe, compliant, outdoor electrical system, with an RCD cut-off. Cutting the plug off will not invalidate the warranty.



The power supply must meet the specifications on the product.
The cores in the supply cable are coloured in accordance with the following code:

Brown = Live. Blue = Neutral. Earth = Green/Yellow
(WHERE FITTED).



DO NOT use the supply cable to lift the pump as this may cause damage.

WARNING - A Residual Current Device (RCD), also known as the Residual Current Circuit Breaker (RCCB), with a tripping current not exceeding 30mA must be installed in the supply circuit. A means of disconnection from the supply having a contact separation of at least 3mm in all poles must be incorporated in the wiring.

Caution: Use in the area of the garden pond only if the installation complies with the relevant wiring regulations. Please consult a qualified electrician.

Caution: Always disconnect all pond appliances from the mains supply before putting your hands into the water.

All electrical installations and wiring must be adequately protected to prevent any damage.

2 metres of electrical cable is supplied to connect the mains power to the control box.
10 metres of cable is provided to connect the control box to the pump.

This unit must be connected to permanent wiring. A switch with 3mm contact separation must be provided in the fixed wiring to provide disconnection from the electricity supply.

Install this product where it will not come into contact with water or other liquids. Install this product where it will be weather protected. Electrically ground this product. Failure to follow these instructions can result in death, fire or electrical shock.

The control box is rated IPX4. It is therefore weather / rain-proof and can be kept outside, it MUST NOT be submerged in water.

The pump is rated IPX8 and can be fully submerged in water.

CONNECTING THE VARIPUMP TO PRESSURE PIPE

VARIPUMP 10,000 TO 1½” PRESSURE PIPE

We recommend connecting **Varipump 10,000** to **1½” Pressure Pipe**.

To do this we recommend screwing a **1½” Single Union, Threaded Female To Plain Female (EA Code: K82-76-55)** onto the inlet and outlet of the Varipump. This also enables easy access to the pump for maintenance when on a gravity fed set-up.

You can then glue **1½” Pressure Pipe (U15-050)** directly into these connectors, using **Solvent Weld Adhesive (EA Code: S79-0-500)**.

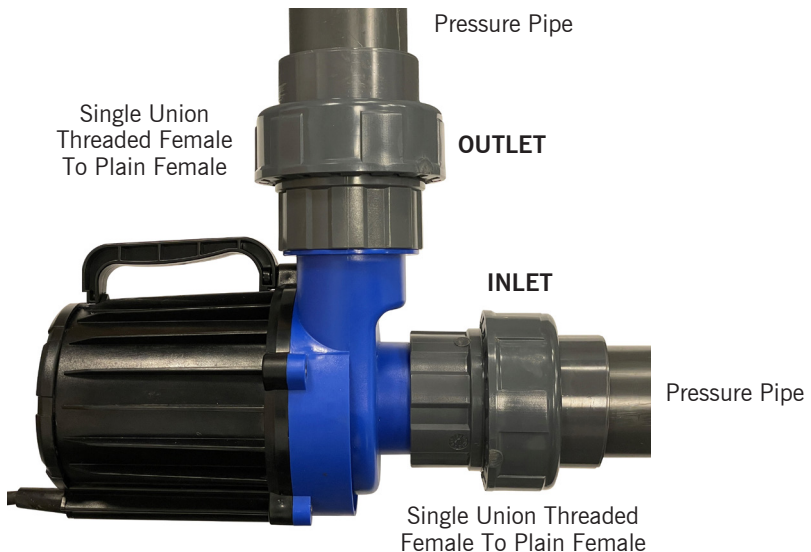
VARIPUMP 20,000 AND 30,000 MODELS TO 2” PRESSURE PIPE

We recommend connecting **Varipump 20,000** and **30,000** pumps to **2” Pressure Pipe**.

To do this we recommend screwing a **2” Single Union, Threaded Female To Plain Female (EA Code: K82-76-66)** onto the inlet and outlet of the Varipump. This also enables easy access to the pump for maintenance when on a gravity fed set-up.

You can then glue **2” Pressure Pipe (U15-063)** directly into these connectors, using **Solvent Weld Adhesive (EA Code: S79-0-500)**.

If you want to connect the Varipump 20,000 or 30,000 to **1½” Pressure Pipe**, follow steps above and add a **2” to 1½” Plain Reducing Bush (EA Code: R81-063)**.



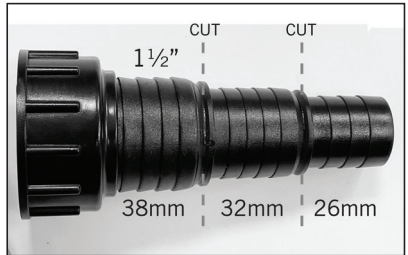
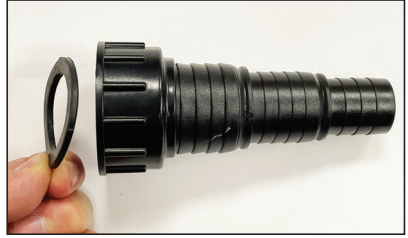
CONNECTING THE VARIPUMP TO FLEXIBLE HOSE

CONNECTING VARIPUMP 10,000 TO FLEXIBLE HOSE

The stepped hosetail supplied allows connections to 38mm (1½"), 32mm, 26mm Flexible Hose.

When fitting the hosetail, ensure the flat washer provided is seated correctly inside the thread before screwing to the outlet of the pump.

We advise using the largest connection therefore the smaller sections of the hosetail must be cut off to ensure sufficient water flow. Once the hosetails have been trimmed, secure the flexible hose to using a stainless steel hose clip (not provided).

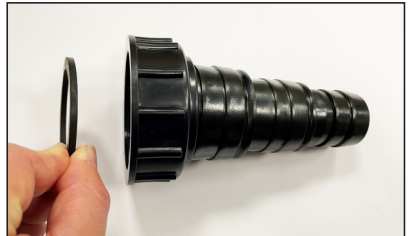


CONNECTING VARIPUMP 20,000 & 30,000 TO FLEXIBLE HOSE

The stepped hosetail supplied allows connections to 50mm (2"), 40mm, 32mm Flexible Hose.

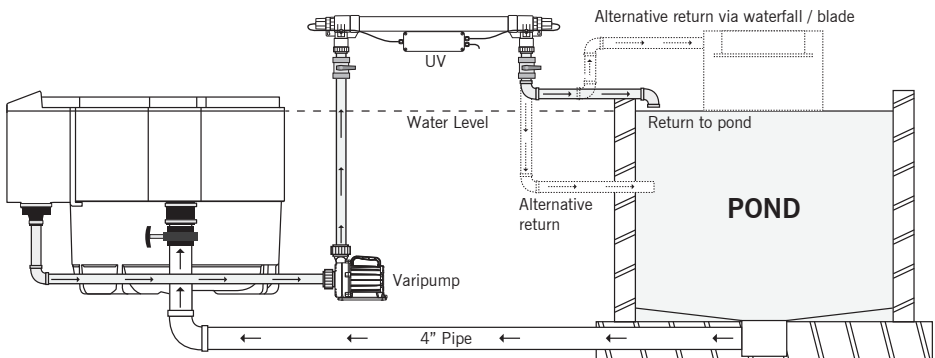
When fitting the hosetail, ensure the flat washer provided is seated correctly inside the thread before screwing to the outlet of the pump.

We advise using the largest connection therefore the smaller sections of the hosetail must be cut off to ensure sufficient water flow. Once the hosetails have been trimmed, secure the flexible hose to using a stainless steel hose clip (not provided).



INSTALLATION ADVICE - GRAVITY FED SET-UP

1. The pump suction line should be not smaller than 1½" (40mm imperial) or 50mm true metric.
2. We recommend using Single Unions, Threaded Female To Plain Female, to connect to Pressure Pipe (see page 8 for advice).
3. The suction line is to have as few bends or elbows as possible. There must not be an air trap on the suction line.
4. Tighten the pump fittings only as much as is required to ensure a tight connection. Excessive torque is unnecessary and may cause damage to the pump.
5. All wiring (electrical) work must be carried out by a qualified electrician and must be installed in accordance to the local codes.
6. The motor must be earthed.
7. The weight of the plumbing and fittings is to be independently supported and not carried by the pump.
8. The pump is not self-priming. Therefore, if the water level is below the pump, a non-return valve must be installed below water level. The pump and inlet line must be primed prior to start up. For non-flooded installations a check valve (non-return valve) is recommended.
9. The controller must not be submerged in water.
10. Do not operate the pump without water.

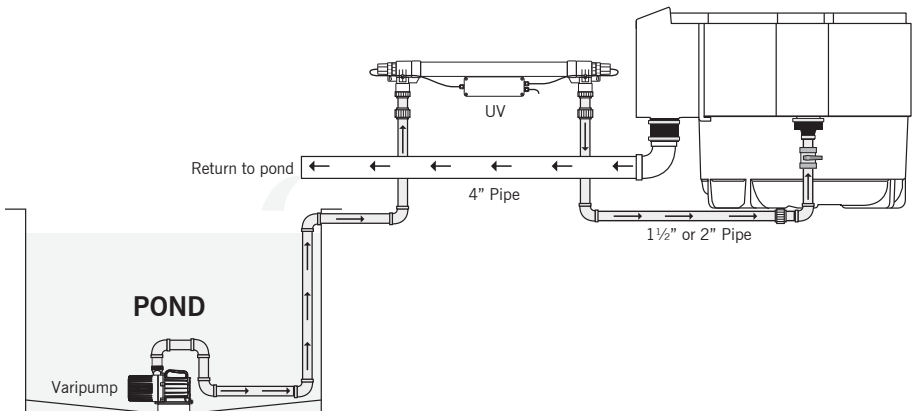


Gravity fed filter installation example shown

INSTALLATION ADVICE - PUMP FED SET-UP

Varipump can be submersed in water, as part of a pump fed system. When installing on pump fed systems we recommend using the hosetails provided to connect up to flexible hose (not supplied).

1. Flexible hose (not supplied) should be the widest possible diameter.
2. Extra steps on hosetails should always be sawn off and removed.
3. A hoseclip (not supplied) must always be used to hold the hose in place on the hosetail.
4. Ensure sealing rings are fitted properly.
5. If using pressure pipe, use the appropriate Single Unions, Threaded Female To Plain Female as shown on page 8.
6. All wiring (electrical) work must be carried out by qualified electricians and must be installed in accordance to the local codes.
7. The motor must be earthed.
8. The controller must not be submerged in water.
9. Do not operate the pump without water.



Pump fed filter installation example shown

SETTING UP THE VARIPUMP CONTROL BOX

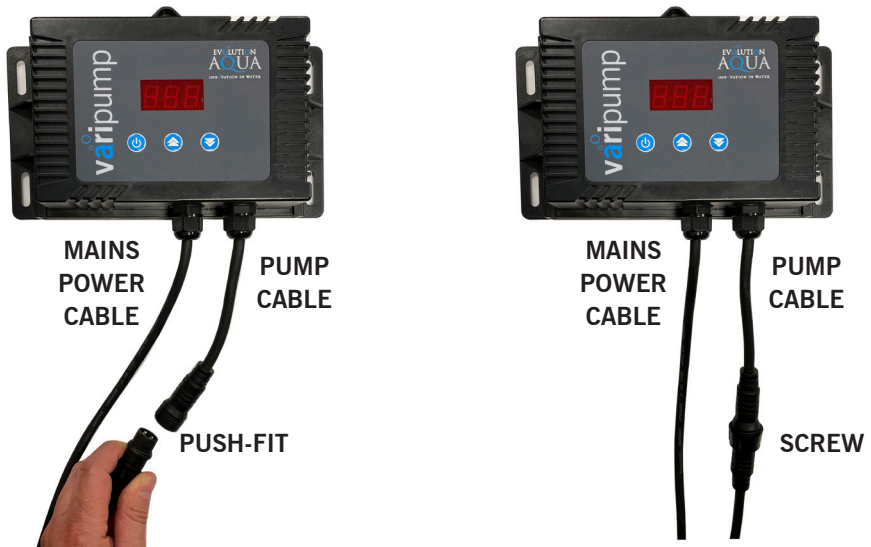
Before installing the Varipump, it is important to consider its location in relation to the mains power supply and control box. There is 10 metres of cable from the control box to the pump, and there is 2 metres of cable to connect the control box to the mains supply.

The control box is rated **IPX4**, therefore it is weather / rain-proof and can be kept outside, but it **MUST NOT** be submerged in water.




We recommend securing the control box to a wall in a location you can easily access at all times. Use the four slots around the edge of the control box to help mount the box, using appropriately sized screws and wall fixing plugs.

In the unlikely event the pump is supplied with a plug, this can be cut off and removed, as the mains supply cable should be wired into a safe, compliant, outdoor electrical system, with an RCD cut-off. Cutting the plug off will not invalidate the warranty.

The cable from the pump has a weatherproof 4 pin connector that should be inserted into the control box connector. Then slide the sleeve over the connectors and tighten up.




OPERATING THE VARIPUMP

Once connected, use the  button to turn the Varipump on or off. The display shows the operating wattage that the Varipump is running at. When you press the  or  buttons to increase or decrease the flow rate, a number between 0 and 100 appears on the screen. This indicates the percentage of power that the pump is running at. ZERO means no flow and 100 means maximum flow (100%). After a few seconds the display reverts back to display the current wattage.



Percentage of power displays briefly when pressing  or 



Wattage displays when Varipump is on. Press power button  to Varipump off.

It may be possible that the operating wattage displayed fluctuates at different times of the day, this is perfectly normal.

If the display shows letters and numbers, this is a fault code, see TROUBLESHOOTING.

GENERAL OPERATING ADVICE

Do not operate the Varipump without water.

Do not use when temperatures are less than 0°C and 35°C. If there is a chance that the water will freeze over and restrict the flow, then you should take it out of the pond and dry it out. Store it over Winter in a dry place, then reconnect the pump again in Spring.

The Varipump is not self-priming, therefore, if the water level is below the pump, a non-return valve must be installed below the water level. The pump and inlet line must be primed prior to start up. For non-flooded installations a check valve (non-return valve) is recommended.

CLEANING THE VARIPUMP - SCAN QR CODE FOR CLEANING VIDEO

It is good practice to inspect the Varipump regularly and to clean it once or twice per year. Scan the QR code to watch a cleaning video.



Always turn off the power before removing the pump.

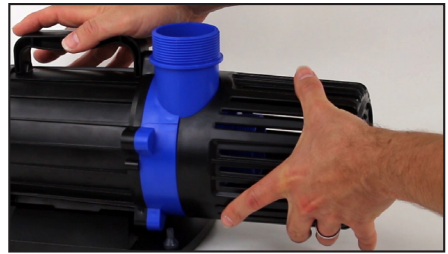
On gravity fed installs, unscrew the collar on the unions to remove the inlet and outlet pipework.

On pump fed installs, use the handle to pull the pump out of the pond, do not pull on the cable.

ALWAYS DISCONNECT THE PUMP FROM THE MAINS POWER BEFORE MAINTENANCE.



Step 1: Disconnect the pump from the pipework or flexi-hose connections.



Step 2: Remove the pump strainer basket (if applicable).



Step 3: Remove the plate from underneath the pump.



Step 4: Unscrew all four screws around the blue plastic impeller housing.



Step 5: Unscrew the screw that is attached to the handle.

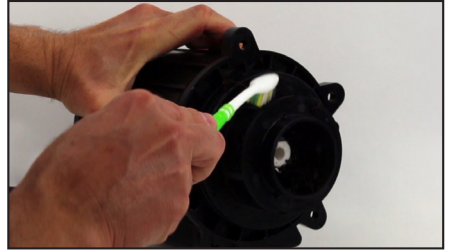


Step 6: Remove the handle.

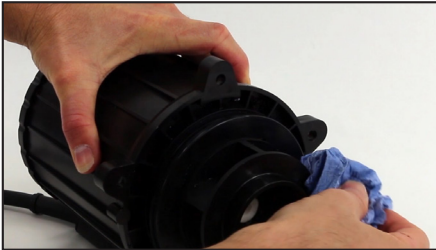
CLEANING THE VARIPUMP



Step 7: Carefully pull away the impeller housing.



Step 8: Use a brush to clean inside and around the impeller.



Step 9: Wipe clean to remove any excess dirt.



Step 10: Re-fit the impeller housing. This can be positioned at multiple angles.



Step 11: Re-fit the handle and tighten up the screw.



Step 12: Re-fit all four screws around the impeller housing and tighten up.



Step 13: Re-fit the base plate.



Step 14: Clip on the strainer basket (if applicable).

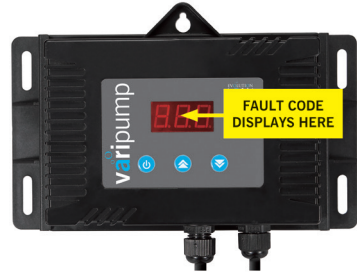
RE-CONNECT THE INLET / OUTLET PIPEWORK AND TURN THE POWER BACK ON

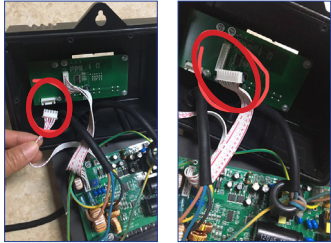
TROUBLESHOOTING - CONTROL BOX FAULT CODES

In the unlikely event of an issue developing with the Varipump, a 3 digit fault code may be displayed on the control box screen.

Use the table below to understand what these codes mean.

If the controller displays digits but the pump is not working - pull out the power cord and re-start.



Fault Code	Fault	Resolution
E01	Pump is out of water	The pump is working without water.
E02	Over current	Abnormal load over current protection. Please pull out the power plug and re-plug again.
E03	Default phase	Bad contact or loose connection in the motor.
E04	Issue with power cable connecting pump to the control box	<p>Check the cable for signs of visible damage. Or there maybe a loose connection inside the control box. Disconnect the pump from the mains, unscrew the control box and check the connections (see photos). If connections are fitted and the pump still does not, the control box may be faulty and needs changing.</p> 
E05	Impeller stuck	Rotation clogging protection, if the pump still not working after restart for three times, please re-plug the power. Or clean the impeller (refer to manual)
E06	Over voltage	Over voltage protection when the working voltage is higher than the rated voltage.
E07	Under voltage	Low voltage protection when the working voltage is lower than the rated voltage.

TROUBLESHOOTING

Symptom	Problem	Resolution
No Flow	Insufficient Prime	Prime system with water and purge all air from suction piping.
	No Power	Wired incorrectly or an RCD has tripped.
		Pump has been switched off at the controller.
	Flow Restriction	Ensure valves are open.
		Ensure plumbing is clear, including suction strainers, check valves, etc.
		Verify non return valve orientation and direction of permitted flow.
		Clean out leaves or other debris from basket strainer (if applicable).
Air leak	Fix air leaks at fittings, connections, strainer basket etc. This typically occurs on the intake side.	
System Incompatibility	Verify hydraulic compatibility: i.e. pump & pipe are sized for the system.	
Excessive Noise	Cavitation	Verify airtight plumbing on the suction plumbing especially fittings!
		Clean out leaves or other debris from basket strainer (if applicable).
		Increase pipe size where possible.
		Decrease suction pipe length, reduce the number of elbows, etc.
		Verify hydraulic compatibility: i.e. pump and pipe are sized for the system.
	No Power	Wired incorrectly or an RCD has tripped.
		Pump has been switched off at the controller.
	Flow Restriction	Ensure valves are open.
		Ensure plumbing is clear, including suction strainers, check valves, etc.
		Verify non return valve orientation and direction of permitted flow.

GUARANTEE



This product is guaranteed against defects in material and workmanship for two years from the date of purchase, under normal usage. The guarantee DOES NOT APPLY in case of improper use, negligence, lack of maintenance or accidental damage to the pump. If the pump fails due to a manufacturing fault within this period it will be either repaired or replaced free of charge. Moving parts or wearable parts including the impeller and any washers or sealing rings are not covered by the guarantee and are available to order from your Evolution Aqua retailer.

Should your Evolution Aqua product stop working refer first to trouble shooting and if this does not help, return the product to the place of purchase.

Liability is limited to replacement of the faulty product only. No other costs will be reimbursed. This guarantee is not transferable and does not affect your statutory rights.

Do not attempt to tamper with or access electrical components inside the pump body. Doing so will invalidate the warranty.

The manufacturer or supplier shall not be responsible, or held liable for any damages caused by defective components or materials of this product, or for loss incurred by interruption of service, or any consequential/incidental damages and expenses arising from the production, sale use or misuse of this product or any other consequential loss.

Any warranty claim must be accompanied by a valid, dated proof of purchase. Evolution Aqua, its distributors and dealers shall not be held liable for any loss of fish, plants or any other livestock as a result of any failure or defect of this product.

The installation and use of your product outside of our recommendations as printed in this manual may also void the warranty.

Evolution Aqua Ltd.

Evolution House, Kellet Close, Wigan, Lancashire, United Kingdom, WN5 0LP

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Evolution Aqua Ltd

Kellet Close
Wigan
Lancashire
United Kingdom
WN5 0LP

www.evolutionaqua.com

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INNOVATION IN WATER